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EXAMINER

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Paper No. 16

Application Number: 09/808,584
Filing Date: March 14, 2001
Appellant(s): JACOBSON ET AL.

Allison Johnson
For Appellants

EXAMINER'S ANSWER

This is in response to the appeal brief filed 4/10/03.

(1) *Real Party in Interest*

Art Unit: 1734

A statement identifying the real party in interest is contained in the brief.

(2) *Related Appeals and Interferences*

The brief does not contain a statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief. Therefore, it is presumed that there are none. The Board, however, may exercise its discretion to require an explicit statement as to the existence of any related appeals and interferences.

(3) *Status of Claims*

The statement of the status of the claims contained in the brief is correct.

(4) *Status of Amendments After Final*

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) *Summary of Invention*

The summary of invention contained in the brief is correct.

(6) *Issues*

The appellant's statement of the issues in the brief is substantially correct. The changes are as follows: with respect to the rejection of claims 1, 9, and 12 under 35 U.S.C. 103 with

Art Unit: 1734

Schrauwers et al (US 5,476,545), claim 12 should be removed. The issue is whether claims 1 and 9 are patentable under 35 U.S.C. 102(b) over U.S. 5,476,545 (Schrauwers et al)?

(7) *Grouping of Claims*

Appellant's brief includes a statement that claims 1-3, 9-35, and 57; 4 and 5; 6 and 7; and 8 as grouped stand or fall together but the groups do not stand or fall together and provides reasons as set forth in 37 CFR 1.192(c)(7) and (c)(8).

(8) *Claims Appealed*

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) *Prior Art of Record*

5,804,256	SCHAFER	9-1998
5,863,620	SCHAFER	1-1999
2,868,162	KNAIN	1-1959
5,476,545	SCHRAUWERS ET AL	12-1995
0,648,715	SHIRAISHI ET AL	4-1995
3,818,860	REBENTISCH	6-1974

Kirk-Othmer, "Radiation Curing", **Encyclopedia of Chemical Technology**, 4th Edition, Vol. 20 (1996), pp.832-834.

(10) *Grounds of Rejection*

Art Unit: 1734

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 102

Claims 1-5, 9-16, 18-35, and 57 are rejected under 35 U.S.C. 102(b) as being anticipated by Schafer (US 5,804,256).

Schafer teaches an apparatus for coating articles comprising an applicator (1), an endless belt type conveyor (not numbered) for sequentially transporting articles to the applicator, and a metering bar (4) positioned opposed to or against the applicator to meter a predetermined amount of coating to the applicator for transfer to an article transported to the applicator by the conveyor (see Fig. 1).

With respect to claim 2, Schafer recognizes the applicator being a roller that can change in range of shore hardness but the range does include the claimed shore hardness of 55 (see col. 4, lines 18-19).

With respect to claim 3, inherently, the apparatus can coat articles of different dimensions as evidenced by col. 3, lines 13-19 whereby circuit boards of different thickness are treated.

With respect to claims 4 and 5, the radius of the metering bar is within the claimed ranged as evidenced by claim 7, the radius being half of the diameter.

With respect to claim 9, see roller (1).

With respect to claim 10, see web or belt applicator (9) in Fig. 2.

With respect to claim 11, see coating of upper and lower surfaces of articles via rolls in Fig. 1 and via a web or belt arrangement in Fig. 2. The metering roll in Fig. 2 is not numbered but sits in the trough adjacent the web or belt.

Art Unit: 1734

With respect to claim 19, Schafer teaches a coating system comprising a first station including a coating apparatus (1), an endless type conveyor (not numbered) for sequentially transporting articles to the applicator, a metering bar (4) positioned against the applicator to meter a predetermined amount of coating to the applicator for transfer to an article transported to the applicator by the conveyor, and a second radiation and/or drying station (47, 48) for solidifying the coating on the article.

With respect to claim 23, see second conveyor (9) in Fig. 1 or (11) in Fig. 14.

Claims 1, 3, 9, 11-13, 16, 18-20, 25-27, 32-35, and 57 are rejected under 35 U.S.C. 102(b) as being anticipated by Schafer (US 5,863,620).

Schafer teaches an apparatus for coating articles comprising an applicator (1), a conveyor (not numbered) for sequentially transporting articles to the applicator, and a metering bar (2) positioned opposed to or against the applicator to meter a predetermined amount of coating to the applicator for transfer to an article transported to the applicator by the conveyor (see Fig. 1).

With respect to claim 3, inherently, the apparatus can coat articles of different dimensions as evidenced by col. 4, lines 44-48 whereby circuit boards of different heights are treated.

With respect to claim 11, see second applicator (3) and second metering bar (4).

With respect to claim 19, Schafer teaches a coating system comprising a first station including a coating apparatus (1), a conveyor (not numbered) for sequentially transporting articles to the applicator, a metering bar (2) positioned opposed to or against the applicator to meter a predetermined amount of coating to the applicator for transfer to an article transported to

Art Unit: 1734

the applicator by the conveyor, and a second radiation and/or drying station (9; see col. 5, lines 34-39).

Claims 1, 3, 9-16, and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Knain (US 2,868,162).

Knain teaches an apparatus for coating articles comprising an applicator (11), a conveyor (21) for sequentially transporting articles to the applicator, and a metering bar (47) positioned opposed to or against the applicator to meter a predetermined amount of coating to the applicator for transfer to an article transported to the applicator by the conveyor (See Fig. 1).

With respect to claim 3, see col. 3, lines 38-41.

With respect to claim 9, the applicator comprises a roller (30).

With respect to claim 10, the applicator comprises an endless belt (11).

With respect to claim 11, the upper and lower surfaces of the articles are coated via web or belt applicators (11, 12) including roller applicators (30) with metering rollers (31). Metering bars (47; see col. 4, lines 52-59) are positioned on the belts.

Claims 1 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Schrauwers et al (US 5,476,545).

Schrauwers et al teach an apparatus for coating articles comprising a roller applicator (15, a conveyor (3) for sequentially transporting articles to the applicator, and a metering bar or doctor (16) positioned opposed to or against the applicator to meter a predetermined amount of

Art Unit: 1734

coating to the applicator for transfer to an article transported to the applicator by the conveyor (see Fig. 1).

Claims 1, 9, and 57 are rejected under 35 U.S.C. 102(b) as being anticipated by Shiraishi et al (US EP 0648715).

Shiraishi et al teach an apparatus for coating articles comprising a roller applicator (5), a conveyor (8) for sequentially transporting articles to the applicator, and a metering bar or doctor (7) positioned opposed to or against the applicator to meter a predetermined amount of coating to the applicator for transfer to an article transported to the applicator by the conveyor (see Fig. 1).

Claims 1, 10, and 57 are rejected under 35 U.S.C. 102(b) as being anticipated by Rebentisch (US 3,818,860).

Rebentisch teaches an apparatus for coating articles comprising an applicator (3), a conveyor (not shown, see claim 1, c) for sequentially transporting articles to the applicator, and a metering bar or doctor (6) positioned opposed to or against the applicator to meter a predetermined amount of coating to the applicator for transfer to an article transported to the applicator by the conveyor (see Fig. 1).

Claim Rejections - 35 USC § 103

Claims 6-8 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schafer (US 5,804,256).

Art Unit: 1734

Schafer teaches a coating apparatus as set forth previously but Schafer is silent concerning the use of a desired pressing force of the metering bar with respect to the applicator. However, it would have been obvious to one of ordinary skill in the art to determine an appropriate metering pressing force to apply to the applicator in accordance with the coating material used and the desired thickness of coating material to be deposited on the article. Such a determination of metering pressure would be determined via routine experimentation.

Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schafer (US 5,804,256) in view of Kirk Othmer.

Schafer teaches a coating apparatus as set forth above but Schafer is silent concerning the radiation source being electron beam. However, it was known in the art at the time the invention was made, to use an electron beam radiation source to cure a coating material as evidenced by Kirk Othmer (see pages 832-834). It would have been obvious to one of ordinary skill in the art to utilize any appropriate source of radiation including electron beam as taught by Kirk Othmer in the Schafer coating apparatus when said appropriate source of radiation is required to cure a given coating composition on an article.

Claims 2 and 4-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schafer (US 5,863,620).

Schafer teaches a coating apparatus as set forth above and recognizes the use of a rubber applicator roll (col. 4, lines 44-48) but Schafer is silent concerning the hardness of the rubber being no greater than 55 Shore A. However, it would have been obvious to one of ordinary skill

Art Unit: 1734

in the art to determine the appropriate hardness of the applicator roller via choice of a desired rubber material to use thereon in accordance with the degree of flexibility needed by the applicator roller to coat an uneven surfaced article. Such a determination would be made in accordance with the article being coated.

With respect to claims 4 and 5, even though Schafer does not disclose the radius of the metering roller, it would have been obvious to one of ordinary skill in the art to use a metering roller of desired dimension to effect uniform metering of the applicator roller yet minimize manufacturing costs.

With respect to claims 6 and 7, Schafer is silent concerning the use of a desired pressing force of the metering bar with respect to the applicator. However, it would have been obvious to one of ordinary skill in the art to determine an appropriate metering pressing force to apply to the applicator in accordance with the coating material used and the desired thickness of coating material to be deposited on the article. Such a determination of metering pressure would be determined via routine experimentation.

Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Knain (US 2,868,162).

Knain teaches a coating apparatus as set forth above and recognizes the use of metering bars or doctors (47) but Knain is silent concerning the amount of pressing force exerted by the bars with respect to the applicator belts. However, it would have been obvious to one of ordinary skill in the art to determine the appropriate metering pressing force to apply to each of the applicators in accordance with the coating material used and the desired thickness of coating

· Art Unit: 1734

material to be deposited on the article. Such a determination of metering pressure would be determined via routine experimentation.

Claims 2, 3, 6, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schrauwers et al (US 5,476,545).

Schrauwers et al teach a coating apparatus as set forth previously and recognize the use of a rubber or deformable applicator roller to coat tiles having different breath and surface imperfections (col. 2, lines 26-32). Schrauwers et al are silent concerning the hardness of the rubber being no greater than 55 Shore A. However, it would have been obvious to one of ordinary skill in the art to determine the appropriate hardness of the applicator roller via choice of a desired rubber material to use thereon in accordance with the degree of flexibility needed by the applicator roller to coat tiles of different breath and surface imperfection. Such a determination would be made in accordance with the article being coated.

With respect to claim 3, one of ordinary skill in the art would expect the Schrauwers et al apparatus to be capable of coating tile of different dimensions as evidenced by col. 2, lines 26-32.

With respect to claims 6 and 7, Schrauwers et al are silent concerning the amount of metering force exerted by the bars with respect to the applicator roll. However, it would have been obvious to one of ordinary skill in the art to determine the appropriate metering pressing force to apply to the applicator roll in accordance with the coating material used and the desired thickness of coating material to be deposited on each article. Such a determination of metering force would be determined via routine experimentation.

Art Unit: 1734

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shiraishi et al (EP 0648715).

Shiraishi et al teach a coating apparatus as mentioned above but Shiraishi et al are silent concerning the apparatus being configured for coating rolls of tape, however, because the Shiraishi et al apparatus includes all the structure claimed and required, one of ordinary skill in the art would expect the Shiraishi et al apparatus to enable the coating of a variety of sizes of rolls of tape because of the supporting conveyor (8) disposed beneath the applicator roller.

(11) Response to Arguments

*Appellants contend that Schafer '256 does not teach a metering bar.

This argument is not deemed persuasive because Schafer '256 shows in Fig. 1, a small metering roll or cylinder which roll or cylinder reads on Appellants, broadly claimed, metering bar. Appellants' claimed metering bar does not exclude a roll or cylinder.

*Appellants contend that Schafer '256 does not teach the metering bar against the applicator roll.

This argument is not deemed persuasive because in Fig. 1, a small metering roll or bar is shown positioned opposed to or against the applicator roll. The invention to Schafer '256 even claims that the metering roll can be "juxtaposed with" or placed side by side with a respective applicator roll (see claim 8). While Schafer '256 recognizes that a gap can be set between the metering roll and respective applicator roll, such is for providing a desired film thickness of

Art Unit: 1734

coating on the article being coating. Inherently, a gap to some degree would exist between the metering roll and respective applicator roll to enable the coating material to pass therethrough.

*Appellants contend that the metering bar to Schafer '256 does not have a radius of at least 4 mm.

This argument is not deemed persuasive because the metering roll must have a diameter of 10 to 50mm according Schafer '256 (see claim 7) and half of that would equate to a radius in the range of 5 to 25 mm which would read on Appellants claimed radius range of at least 4mm.

*Appellants contend that Schafer '256 does not teach an applicator that includes an endless belt.

This argument is not deemed persuasive because Schafer '256 shows in another drawing, Fig. 2, applicators including belts. The applicator belts being fed through troughs of liquid. At least two rolls are shown in contact with the belts to feed and meter an amount of liquid onto the belts. Schafer '256 does not discuss this drawing in any detail. As for Fig. 2 being merely a means of transportation, this figure indicates an arrangement whereby each article can be transported via the belts and associated guide rolls and coated with a metered amount of material via the rollers in the trough of liquid.

*Appellants contend that Schafer '620 does not anticipate the claimed invention because a "narrow gap" exists between the metering roll and respective applicator roll such that the metering roll is not positioned against the applicator roll.

Art Unit: 1734

This argument is not deemed persuasive because Fig. 1 shows the metering roll positioned against the applicator roll. In col. 4, lines 50+. An arrangement is suggested whereby the gap is so arranged to define the coating film thickness. Such an arrangement would mean that inherently one could set the metering roll with respect to the applicator roll such that the claim invention would remain unpatentable.

*Appellants contend that Knain does not teach a metering bar positioned against an applicator.

This is not deemed persuasive because Appellants disclose in the specification on page 8, lines 13+, what the metering bar could be and Knain explicitly teaches a "bar" (47). In col. 4, lines 52+, Knain explicitly teaches bars which scrap and remove coating material from the belt.

*Appellants contend that Knain does not teach the metering bars removing or metering coating material to the applicator for transfer to the article.

This argument is not deemed persuasive because the endless belt applicator enables any coating or excess thereof to be removed such that always a desired amount of coating material is applied to the applicator and then to the article. Appellants claimed invention does not include method steps and therefore, Appellants intended Knain does not require order of application. Knain merely has to provide a metering bar to meter or maintain the desired amount of material for application to each article and/or subsequent articles.

Art Unit: 1734

*Appellants contend that the Knain scraper bars (47) do not contact the working surface of the belt to thereby meter coating material to the applicator.

This argument is not deemed persuasive because each bar scraps the outer surface of the belt and the outer surface of the belt is what applies coating to each article.

*Appellants contend that Dec. 5th office action reads element 31 of Knain as a metering bar such that claim Knain does not anticipate 1.

This argument is not deemed persuasive because the element that the Examiner deems to read on the metering bar of claim 1 is scraper bar (47).

*Appellants contend that Schrauwers et al do not teach a metering bar which meters a predetermined amount of coating material to the applicator for transfer to the article.

This argument is not deemed persuasive because the metering bar (16) of Schrauwers et al is there to prevent the combination of an excess of applied coating material and freshly applied coating material from building up to provide a different thickness of coating to each subsequently fed article. Therefore, the metering bar facilitates uniform metering of the coating material in a predetermined amount to be applied to the applicator and then the conveyed article(s).

*Appellants contend that Shiraishi et al do not teach a metering bar positioned against an applicator to meter a predetermined amount of coating to the applicator to transfer to an article.

Art Unit: 1734

This argument is not deemed persuasive because Shiraishi et al teach a blade or metering bar (7) positioned opposed to or against applicator (5). The control of the amount of coating material applied to the applicator and then to the article results from the metering bar or blade (7) removing leftover applied coating. As mentioned in the previous argument, the blade or metering bar exists to prevent the combination of an excess of applied coating material and freshly applied coating material from building up to provide a different thickness of coating to each subsequently fed article. Therefore, the Shiraishi et al metering bar facilitates uniform metering of the coating material in a predetermined amount to be applied to the applicator and then the conveyed article(s).

*Appellants contend that Rebentisch does not teach the doctor or metering bar positioned against the applicator.

This argument is not deemed persuasive because although Rebentisch does not explicitly state positioning the doctor blade against the applicator, Rebentisch show it in Fig. 1. The doctor bar is opposed to or against to the applicator (3) so as to reduce and thereby meter a predetermined amount of coating material and provide a desired thickness of coating on a conveyed article.

*Appellants contend that Schafer '256 does not and would not effect force against or in opposition to the applicator in the claimed range of 35g/cm width or 45g/cm width because the metering bar is not positioned against the applicator.

Art Unit: 1734

This argument is not deemed persuasive because even though the claimed range is not explicitly set forth by Schafer '256, it is common sense to the routineer in the art to press or force the metering bar against or in opposition to the applicator in order to maintain uniformly a desired coating thickness on the applicator for transfer to an article or any subsequent article being coated. This force or pressure range would be determined via routine experimentation based on coating material characteristics (i.e., viscosity) and maintenance of the desired thickness of coating throughout the coating process.

*Appellants contend that Schafer '256 does not teach an apparatus configured/enabled to apply coating to an edge face of a roll of tape.

This argument is not deemed persuasive because the claimed invention (see Appellants claim 8) merely requires the enablement or capability of the apparatus of Schafer '256 to apply coating to a roll of tape. The Schafer '256 apparatus includes conveyor belts arranged to support discrete articles for coating. The Schafer '256 apparatus is not for works of indefinite length such as webs but discrete articles. Placement of a roll of tape on a side edge on a belt type conveyor such as shown by Schafer '256 would enable the side edges of the tape roll to be coated.

*Appellants contend that the rejection of Schafer '256 with Kirk Othmer should be withdrawn because Schafer '256 does not even anticipate Appellants' claimed invention to a metering bar positioned against the applicator.

Art Unit: 1734

This argument is not deemed persuasive because the 103 rejection of Schafer '256 and Kirk Othmer remains as the Examiner deems the claimed invention to a metering bar positioned against the applicator to be unpatentable for reasons cited above.

*Appellants contend that Schafer '620 does not teach a metering bar positioned against an applicator let alone a metering bar having a radius of at least 2.5 mm or at least 4.00mm.

This argument is not deemed persuasive because even though Schafer '620 does not disclose the dimension of the metering roller or bar, it would have been obvious to one of ordinary skill in the art to use a metering roller of desired dimension to effect uniform metering of the applicator roller yet minimize manufacturing costs.

*Appellants contend that Schafer '620 does not teach a metering bar exerting a force of 35g/cm width or 45g/cm width.

This argument is not deemed persuasive because it would have been obvious to one of ordinary skill in the art to determine an appropriate metering pressing force to apply to the applicator in accordance with the coating material used and the desired thickness of coating material to be deposited on the article. Such a determination of metering pressure would be determined via routine experimentation.

*Appellants contend that Knain does not teach a metering bar exerting a force of 35g/cm width or 45g/cm width.

Art Unit: 1734

This argument is not deemed persuasive because it would have been obvious to one of ordinary skill in the art to determine an appropriate metering pressing force to apply to the applicator in accordance with the coating material used and the desired thickness of coating material to be deposited on the article. Such a determination of metering pressure would be determined via routine experimentation.

*Appellants contend that Schrauwers et al do not teach a metering bar exerting a force of 35g/cm width or 45g/cm width.

This argument is not deemed persuasive because it would have been obvious to one of ordinary skill in the art to determine an appropriate metering pressing force to apply to the applicator in accordance with the coating material used and the desired thickness of coating material to be deposited on the article. Such a determination of metering pressure would be determined via routine experimentation.

*Appellants contend that Shiraishi et al do not teach an apparatus configured/enabled to coat tape.

This argument is not deemed persuasive because the claimed invention (see Appellants claim 8) merely requires the enablement or capability of the apparatus of Shiraishi et al to apply coating to a roll of tape. The Shiraishi et al apparatus includes a conveyor belt arranged to support discrete articles for coating. The Shiraishi et al apparatus is not for works of indefinite length such as webs but discrete articles. Placement of a roll of tape on a side edge on a belt type

Art Unit: 1734

conveyor such as shown by Shiraishi et al would enable the side edges of the tape roll to be coated.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,



Laura E. Edwards

Primary Examiner

Art Unit 1734

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June 30, 2003

Conferees

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